

REPLACEMENT  
AS A RESULT OF  
REVERSE  
TRANSCRIPTION  
OF VECTOR RNA

IRRELEVANT SEQUENCE  
REPLACEMENT  
MUTATION OF  
ENHANCER AND  
PROMOTER

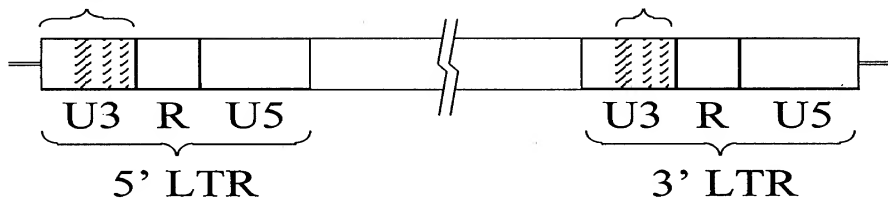


Figure 1

## Wild type 3' LTR sequence:

1 GAACAGATGG AACAGCTGAA TATGGGCCAA ACAGGATATC TGTGG TAAGC  
 51 AGTTCC TGCC CCGGCTCAGG GCCAAGAACA GATGGAACAG CTGAATATGG  
 101 GCCAAACAGG ATATCTGTGG TAAGCAGTTC CTGCCCCGGC TCAGGGCCAA  
 151 GAACAGATGG TCCCCAGATG CGGTCCAGCC CTCAGCAGTT TCTAGAGAAC  
 201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT  
 251 ATTTGAACTA ACCAATCAGT TCGCTTCTCG CTTCTGTTCG CGCGCTTCTG  
 301 CTCCCCGAGC TCAATAAAA

 Corresponding modified 3' LTR sequence from pENZ1  
 (modified sequences in bold italics):

1 *ACGCTTGATC* *CGGCTACCTG* *CCCATTGAC* *CACCAAGCGA* *AACATCGCAT*  
 51 *CGAGCGAGCA* *CGTACTCGGA* *TGGAAGCCGG* *TCTGTTCGAT* *CAGGATGATC*  
 101 *TGGACGAAGA* *GCATCAGGGG* *CTCGCGCCAG* *CCGAACTGTT* *CGCCAGGCTC*  
 151 *AAGGCGCGCA* *TGCCCAGCGG* *CGAGGATCTC* *GTCGTGACTT* TCTAGAGAAC  
 201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT  
 251 ATTTGAACTA *ACCGGTCAGT* TCGCTTCTCG CTTCTGTTCG CGCGCTTCTG  
 301 CTCCCCGAGC *TCAGCTGCG*

Figure 2

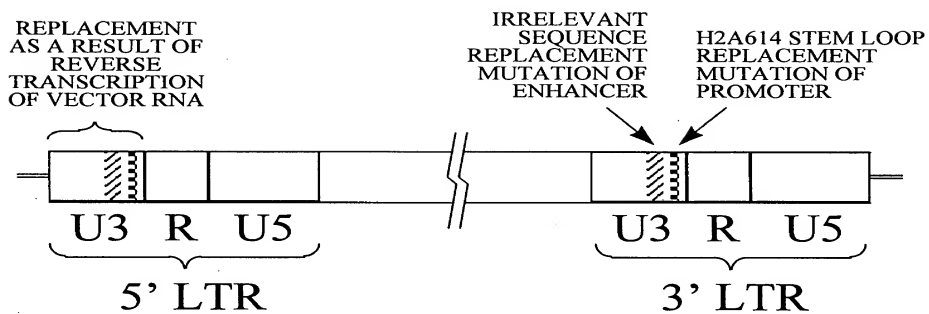


Figure 3

REPLACEMENT  
AS A RESULT OF  
REVERSE  
TRANSCRIPTION  
OF VECTOR RNA

REPLACEMENT MUTATION  
OF PROMOTER/ENHANCER  
SEQUENCES WITH A  
POLYADENYLATION  
PROCESSING SIGNAL  
WITHOUT AATAAA

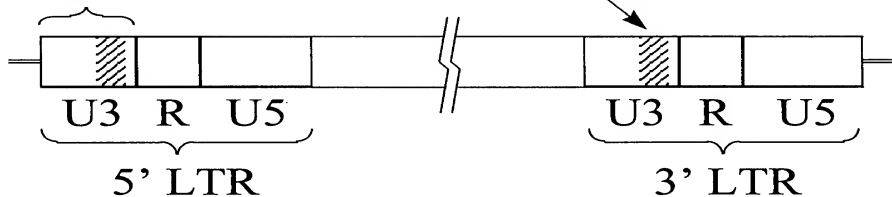


Figure 4

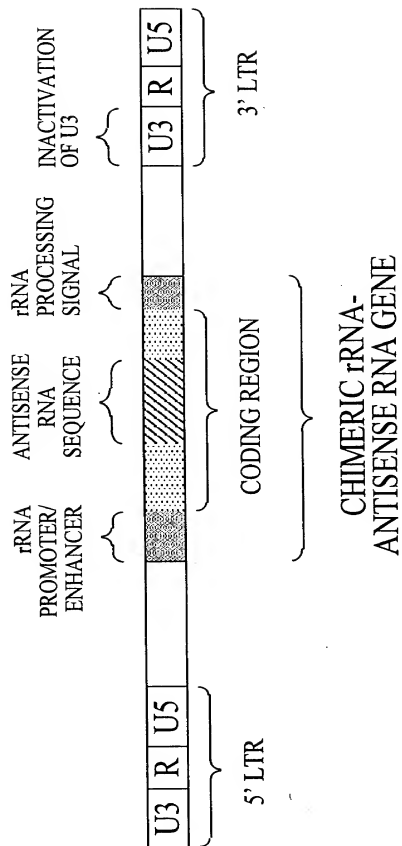


Figure 5

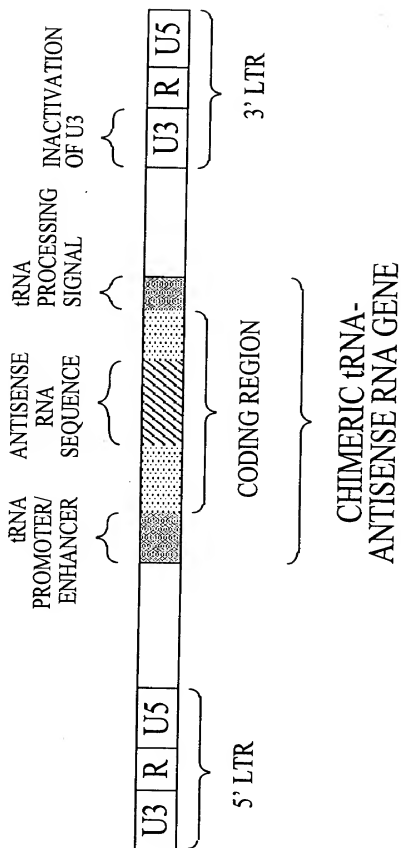


Figure 6

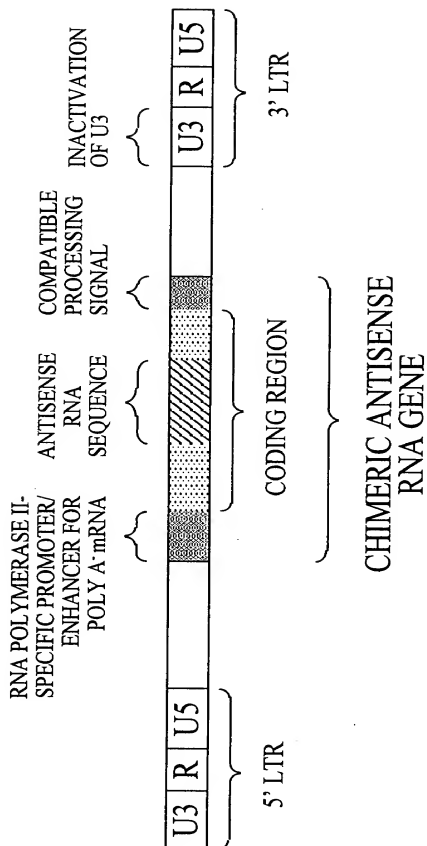


Figure 7

Vector DNA  
Construct Transfected  
into Packaging Cell

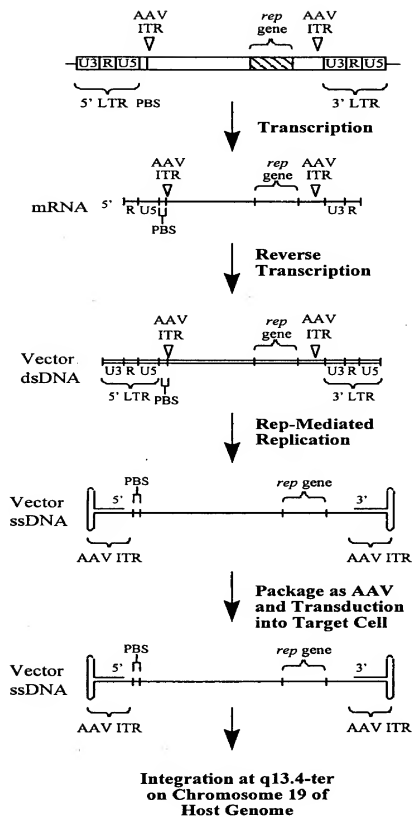


Figure 8



Vector DNA  
Construct Transfected  
into Packaging Cell

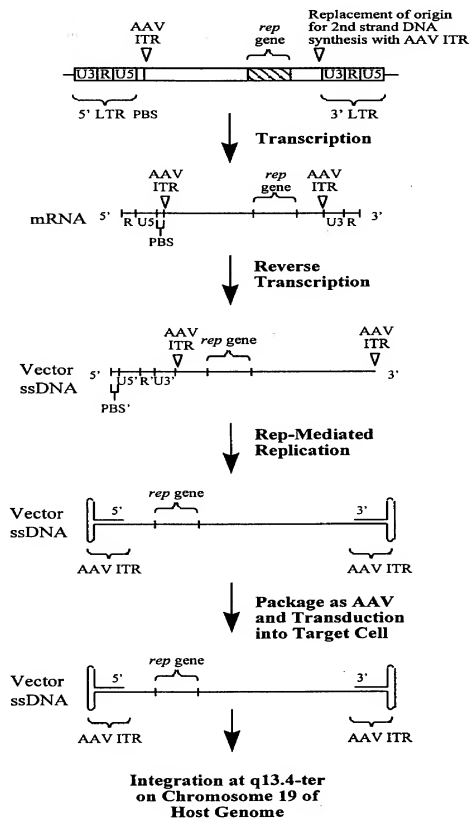


Figure 9

Vector DNA Construct  
Transfected into  
Packaging Cell

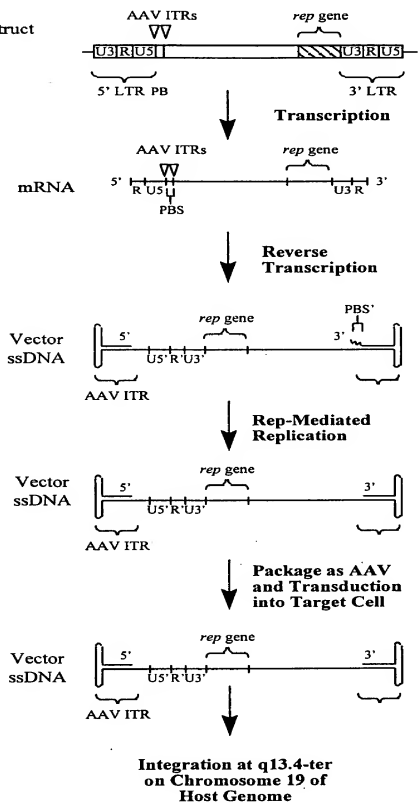


Figure 10

Vector DNA  
Construct Transfected  
into Packaging Cell

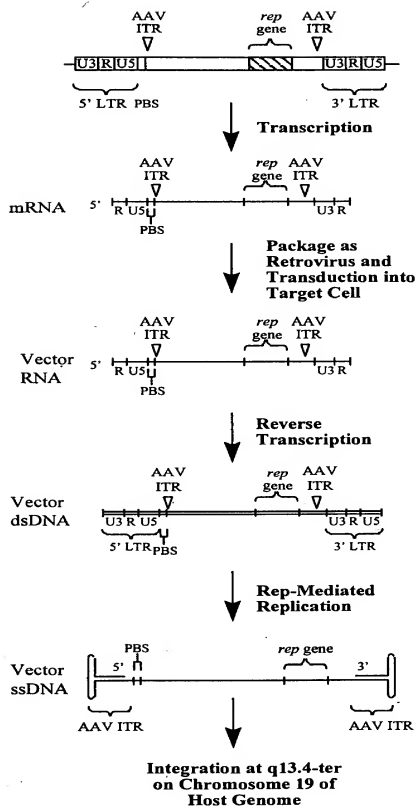
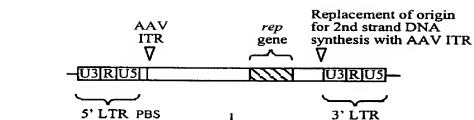
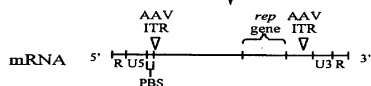


Figure 11

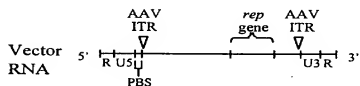
Vector DNA  
Construct Transfected  
into Packaging Cell



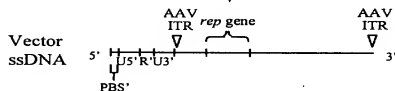
**Transcription**



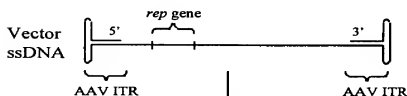
**Package as Retrovirus and Transduction into Target Cell**



**Reverse Transcription**



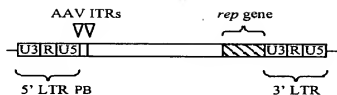
**Rep-Mediated Replication**



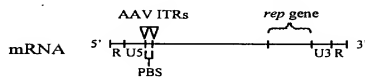
**Integration at q13.4-ter  
on Chromosome 19 of  
Host Genome**

Figure 12

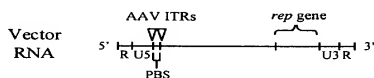
Vector DNA Construct  
Transfected into  
Packaging Cell



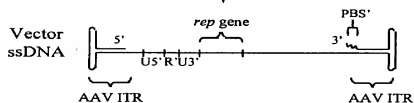
**Transcription**



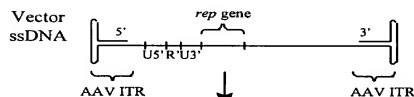
**Package as Retrovirus and Transduction into Target Cell**



**Reverse Transcription**



**Rep-Mediated Replication**



**Integration at q13.4-ter  
on Chromosome 19 of  
Host Genome**

Figure 13